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PA - (TTOC) TOTO LTD

PN - JP10195382 A 19980728 DW199840 C09D183/04 005pp

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XA - C1998-140465

XIC - ~~C09C-003/06~~ ; C09D-007/12 ; C09D-183/04

~~AB - J10195382~~ A photocatalytic and hydrophilic coating liquid having pH of 5-9 comprises (a) a film forming material having an average compsn. of  $\text{SiXpO}(4-p)/2$  (X = alkoxy, halogen, p > 0 to 4) which forms amorphous silica film after cured, (b) titanium oxide particles the surface of which is coated by inorganic oxide particles having an isoelectric point of up to 5 in pH which are dispersed in the film forming material and make the surface of the film by photo-exciting hydrophilic.

- Also claimed are : (1) : A photocatalytic and hydrophilic coating liquid having pH of 5-9 comprises (a) a film forming material having an av. compsn. of  $\text{SiXpO}(4-p)/2$  which forms amorphous silica film after cured, (b) titanium oxide particles the surface of which is coated by inorganic oxide particles having an isoelectric point of up to 5 in pH which are dispersed in the film forming material and make the surface of the film owing to substituting at least a part of an organic gp. bound to Si atom in the silicone molecule on the surface by photocatalytic action to hydroxyl gp. by photo-exciting hydrophilic.

(2) : the hydrophilised film enables to spread condensed water and/or droplets of moisture adhered on the surface thereof and prevents the surface of the substrate coated with the film from clouding or shading.

(3) : the hydrophilised film enables to wash out the adhered soil or deposit on the surface by rain water or prevents adhesion of pollutant contained in the rain water and results in to self-clean the surface.

(4) : deposit or adhered matter on the hydrophilised film can be cleaned by water when it is dipped or moistened with water.

- USE - The coating liquid is applied to window glass of vehicles, back mirror, glasses, shield of helmet, dental mirror, mirror of endoscope, panel cover etc.

- ADVANTAGE - The coating liquid can be stored for long time stable and provides a film making the substrate highly hydrophilic and keeping it for long time clean.

- (Dwg.0/0)

IW - PHOTOCATALYST HYDROPHILIC COATING LIQUID CONTAIN COMPOUND FORM AMORPHOUS SILICA FILM TITANIUM OXIDE PARTICLE

IKW - PHOTOCATALYST HYDROPHILIC COATING LIQUID CONTAIN COMPOUND FORM AMORPHOUS SILICA FILM TITANIUM OXIDE PARTICLE

NC - 001

OPD - 1997-01-08

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ORD - 1998-07-28

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TI - Photocatalytic hydrophilic coating liquid - contains compound which  
forms amorphous silica film and titanium oxide particles